

Notice of Allowability

Application No.

10/053,490

Examiner

Phuong Phu

Applicant(s)

PICK ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Appeal Brief filed on 4/18/07.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. This Office Action is responsive to the Appeal Brief filed on 4/18/07. Accordingly, claims 1-28 are currently pending.

REASONS FOR ALLOWANCE

2. Claims 1-28 are allowed.

3. The following is an examiner's statement of reasons for allowance:

-Regarding independent claim 1, none of prior art of record teaches or suggests a method of normalizing an output of a receiver, as claimed. Gonzalez et al (2002/0181624), in view of Sriram et al (6,754,251) and Miller et al (5,930,231), (all previously cited) teaches the claimed method except, at least, neither one or any combination of them teaches that the method comprises a procedure of determining a normalization factor using a determined variance of multiple access interference, wherein as remarked in section "Summary of Claimed Subject Matter", pages 2 and 3, of the Appeal Brief filed on 4/18/07, and in light of the Specification, pages, lines 1-3, 9-11, page 6, line 20 to page 8, line 8), the variance of multiple access interference is defined or specified in such a way that in direct sequence spread spectrum transmission, a stream of information is divided into small pieces, each of which is allocated across the spectrum to a different signature sequence over the same frequency channel, these allocations, with multiple users, resulting in the multiple access interference which is assumed to be a white Gaussian process and whose variance is calculated at least based on cross correlation between spreading sequences, multiple-user-detection weight vectors and channel taps estimation. In the method of Gonzalez et al in view of Sriram et al and Miller et al, the normalization factor is determined by using a determined variance of noise and/or interference;

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however, the variance is not defined or specified as mentioned above for the variance of multiple access interference of the claimed invention. It would not have been obvious for one skilled in the art to implement Gonzalez et al in view of Sriram et al and Miller et al, in further view of other prior art of record, for leading such the implementation to the claimed invention.

-Regarding independent claim 9, none of prior art of record teaches or suggests a receiver, as claimed. Gonzalez et al in view of Sriram et al and Miller et al teaches the claimed receiver except, at least, neither one or any combination of them teaches that the receiver performs a normalization based on a determined variance of multiple access interference, wherein as remarked in section "Summary of Claimed Subject Matter", pages 2 and 3, of the Appeal Brief filed on 4/18/07, and in light of the Specification, pages, lines 1-3, 9-11, page 6, line 20 to page 8, line 8), the variance of multiple access interference is defined or specified in such a way that in direct sequence spread spectrum transmission, a stream of information is divided into small pieces, each of which is allocated across the spectrum to a different signature sequence over the same frequency channel, these allocations, with multiple users, resulting in the multiple access interference which is assumed to be a white Gaussian process and whose variance is calculated at least based on cross correlation between spreading sequences, multiple-user-detection weight vectors and channel taps estimation. In the receiver of Gonzalez et al in view of Sriram et al and Miller et al, the normalization is performed based on a determined variance of noise and/or interference; however, the variance is not defined or specified as mentioned above for the variance of multiple access interference of the claimed invention. It would not have been obvious for one skilled in the art to implement Gonzalez et al in view of

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Sriram et al and Miller et al, in further view of other prior art of record, for leading such the implementation to the claimed invention.

-Regarding independent claim 19, none of prior art of record a method comprising procedures of method comprising: receiving one or more output signals from a detector; determining a normalization factor for each of the one or more output symbols, each normalization factor being independent of normalization factors for previous output symbols; and multiplying each of the one or more output symbols by the corresponding normalization factor to obtain a metric correction.

-Regarding independent claim 24, none of prior art of record teaches or suggests a method, as claimed. Gonzalez et al in view of Sriram et al and Miller et al teaches the claimed method except, at least, neither one or any combination of them teaches that the method comprises a procedure of determining a normalization factor using a determined variance of multiple access interference, wherein as remarked in section "Summary of Claimed Subject Matter", pages 2 and 4, of the Appeal Brief filed on 4/18/07, and in light of the Specification, pages, lines 1-3, 9-11, page 6, line 20 to page 8, line 8), the variance of multiple access interference is defined or specified in such a way that in direct sequence spread spectrum transmission, a stream of information is divided into small pieces, each of which is allocated across the spectrum to a different signature sequence over the same frequency channel, these allocations, with multiple users, resulting in the multiple access interference which is assumed to be a white Gaussian process and whose variance is calculated at least based on cross correlation between spreading sequences, multiple-user-detection weight vectors and channel taps estimation. In the method of Gonzalez et al in view of Sriram et al and Miller et al, the

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normalization factor is determined by using a determined variance of noise and/or interference; however, the variance is not defined or specified as mentioned above for the variance of multiple access interference of the claimed invention. It would not have been obvious for one skilled in the art to implement Gonzalez et al in view of Sriram et al and Miller et al, in further view of other prior art of record, for leading such the implementation to the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHUONG PHU
PRIMARY EXAMINER


Phuong Phu
07/26/07

Phuong Phu
Primary Examiner
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